What is claimed is:

~~Patent Claims~~

~~1. Apparatus for sending data in an SDH or, respectively, PDH~~ transmission system, comprising

a means (2) for receiving and arranging data incoming in a plurality of data channels (1) in mini-cells of flexible length,

a means (3) for generating a single data stream from the mini-cells, whereby the received mini-cells are joined to one another in the data stream,

characterized by

a means (6) for the direct generation of transmission frames from the data stream and for sending the generated transmission frames via an SDH or, respectively, PDH transmission system, whereby the individual transmission frames contain a plurality of mini-cells and correspond to the frame structure of the SDH or, respectively, PDH transmission system.

A6

2. Apparatus for sending data in an SDH or, respectively, PDH transmission system according to claim 1,

characterized by

a means (4) for generating data packets corresponding to an asynchronous transfer mode from the data stream, and

a means (5) for generating transmission frames corresponding to the SDH or, respectively, PDH transmission system from the data packets corresponding to the asynchronous transfer mode.

3. Apparatus for sending data in an SDH or, respectively, PDH transmission system according to claim 1 or 2,

characterized in that

the means (6) for the direct generation of transmission frames generate position data (20) with respect to the position of the first mini-cell in the transmission frame in each transmission frame.

4. Apparatus for sending data in an SDH or, respectively, PDH transmission system according to claim 3

characterized in that

the means (6) for the direct generation of transmission frames from the data stream arranges the position data (20) at the beginning of a respective transmission frame.

5. Apparatus for sending data in an SDH or, respectively, PDH transmission system according to one of the preceding claims,
characterized in that
the means (3) for generating a single data stream is a means for the statistical time-division multiplexing of the data incoming in the plurality of data channels (1).

6. Method for sending data in an SDH or, respectively, PDH transmission system, comprising the following steps:
receiving and arranging data incoming in a plurality of data channels in mini-cells of flexible length, whereby the received mini-cells are arranged following one another in the data stream,
generating a single data stream from the mini-cells, and direct generation of transmission frames from the data stream and sending the generated transmission frames via an SDH or, respectively, PDH transmission system, whereby the individual transmission frames contain a plurality of mini-cells and correspond to the frame structure of the SDH or, respectively, PDH transmission system.

7. Method for sending data in an SDH or, respectively, PDH transmission system according to claim 6,
characterized in that
position data with respect to the position of the first mini-cell in the transmission frame are generated in the direct generation of transmission frames corresponding to the SDH or, respectively, PDH transmission system.

8. Method for sending data in an SDH or, respectively, PDH transmission system according to claim 6,
characterized in that
the position data are arranged at the beginning of a respective transmission frame.

9. Method for sending data in an SDH or, respectively, PDH transmission system according to one of the claims 6 through 8,
characterized in that

a statistical time-division multiplexing of the data incoming in the plurality of data channels is implemented when generating the data stream.

~~10. Apparatus for receiving data in an SDH or, respectively, PDH~~ transmission system, comprising

a means (27) for the reception and the direct generation of a single data stream of mini-cells from incoming transmission frames corresponding to the frame structure of the SDH or, respectively, PDH transmission system,

a means (28) for the distribution of data contained in mini-cells in the data stream onto respective data channels, and

a means (29) for the restoration of the data of the individual data channels (30) from the mini-cells.

SUB A9

11. Apparatus for receiving data in an SDH or, respectively, PDH transmission system,

characterized by

a means (25) for recovering data packets corresponding to an asynchronous transfer mode from the incoming transmission frames corresponding to the SDH or, respectively, PDH transmission system, and

a means (26) for generating the data stream from the data packets corresponding to the asynchronous transfer mode.

12. Apparatus for receiving data in an SDH or, respectively, PDH transmission system according to claim 10 or 11,

characterized in that

the means (27) for the reception and the direct generation of the data stream from the incoming transmission frames corresponding to the SDH or, respectively, PDH transmission system generates the data stream on the basis of position data (20) with respect to the position of the first mini-cell in the transmission frame that are contained in every transmission frame.

13. Apparatus for receiving data in an SDH or, respectively, PDH transmission system according to claim 12,

characterized in that

the position data (20) are arranged at the beginning of a respective transmission frame.

14. Apparatus for receiving data in an SDH or, respectively, PDH transmission system according to one of the claims 10 through 13,
characterized in that
the means (28) for distributing the data is a means for demultiplexing the data stream according to the information contained in the mini-cell header.

15. Method for receiving data in an SDH or, respectively, PDH transmission system, comprising the following steps:
reception and direct generation of a single data stream from the incoming transmission frames corresponding to the frame structure of the SDH or, respectively, PDH transmission system,
distribution of data contained in mini-cells in the data stream onto respective data channels, and
restoration of the data of the individual data channels from the mini-cells.

16. Method for receiving data in an SDH or, respectively, PDH transmission system according to claim 15,
characterized in that
the data stream is generated on the basis of position data with respect to the position of the first mini-cell in the transmission frame that are contained in every transmission frame.

17. Method for receiving data in an SDH or, respectively, PDH transmission system according to claim 16,
characterized in that
the position data are arranged at the beginning of a respective transmission frame.

18. Method for receiving data in an SDH or, respectively, PDH transmission system according to one of the claims 15 through 17,
characterized in that
a demultiplexing of the data stream corresponding to the information contained in the mini-cell header is implemented in the distribution of the data.

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